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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/327,744	10/24/1994	M. ANTHONY STONE	3309P-65	8729

7590 05/07/2003

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EXAMINER

GOODMAN, CHARLES

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 05/07/2003

410

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/327,744

Applicant(s)

STONE ET AL.

Examiner

Charles Goodman

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. In view of the Board Decision filed on February 20, 2003 and the remand therein, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

2. The After Final Amendment filed on November 16, 2000 has been entered.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted Prior Art (hereinafter referred to as 'Prior Art' - specification p. 1, ll. 8-28) in view of McComas et al and Carr.

The Prior Art discloses the invention substantially as claimed including the metal honeycomb structure of abradable seals and the art recognized fact that these seals are periodically removed by various means. However, the Prior Art lacks a specific teaching for removing the seal via a pressurized liquid at a specific angle and striking location. In that regard, McComas et al clearly teaches that it is common practice in the art to perform routine engine maintenance which frequently requires removal of coatings in the abradable seals. See c. 1, ll. 60-67. Specifically, McComas et al clearly teaches a method of removing coating (1), i.e. abradable seals, by utilizing a high pressure liquid stream (5) directed at the abradable seal at an angle and removing the same by relative movement between the seal and the stream, this step including pressure and angle of the liquid stream as claimed, wherein this method allows for removal of the seal without damaging the substrate. See Figs. 1-1A, Abstract, c. 1, l. 19 - c. 3, l. 66. Thus, McComas et al at the very least teaches that removal of abradable seals via pressurized liquid stream is one of various methods known in the art. Moreover, Carr teaches a method of removing a coating (30, 32) wherein the optimal angle for the pressurized liquid stream (24) in facilitating removal of the layer during movement with respect to the work is less than 90° since that angle allows for more removing media to be available to dislodge the layer from the substrate - the layer being removed includes a "brazed" since the adherent

of the adhered layer clearly encompasses "brazing." Fig. 2, c. 4, ll. 55-66. Thus, it would have been obvious to the ordinary artisan at the time of the instant to provide the Prior Art with the step of removing the honeycomb structure by directing a high pressure liquid stream striking the substrate at the base of the honeycomb at an angle less than 90° as taught by McComas et al and Carr in order to facilitate removal of the honeycomb and braze without damaging the substrate.

Regarding claim 8, the modified method of the Prior Art includes the ribbon direction since the straight line movement of the liquid would be in parallel direction to the impinged ribbon of the honeycomb.

6. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiembob, Ryan, or Ackerman in view of McComas et al and Carr.

Shiembob, Ryan, or Ackerman all disclose various forms of abradable seals for gas turbine engine comprising a metal honeycomb, braze, and substrate structure. More specifically, Shiembob teaches an insulated honeycomb seal for gas turbine engines comprising a honeycomb (2) that is inherently brazed onto a substrate (18). See whole patent. Ryan teaches another abradable seal for gas turbine engines comprising a honeycomb (2) brazed onto a substrate (1). See whole patent. Ackerman teaches a further example of an abradable seal comprising a honeycomb (28) which is inherently brazed onto a substrate (not designated by reference but see Fig. 1). See whole patent. However, none of these references specifically teach a method of removal of the honeycomb and braze from the substrate. In that regard, McComas et al clearly teaches that it is common practice in the art to perform routine engine maintenance which frequently requires removal of coatings in the abradable seals. See c. 1, ll. 60-67.

Specifically, McComas et al clearly teaches a method of removing coating (1), i.e. abradable seals, by utilizing a high pressure liquid stream (5) directed at the abradable seal at an angle and removing the same by relative movement between the seal and the stream, this step including pressure and angle of the liquid stream as claimed, wherein this method allows removal of the seal without damaging the substrate. See Figs. 1-1A, Abstract, c. 1, l. 19 - c. 3, l. 66. Thus, McComas et al at the very least teaches that removal of abradable seals via pressurized liquid stream is one of various methods known in the art. Moreover, Carr teaches a method of removing a coating (30, 32) wherein the optimal angle for the pressurized liquid stream (24) in facilitating removal of the layer during movement with respect to the work is less than 90° since that angle allows for more removing media to be available to dislodge the layer from the substrate - the layer being removed includes a "braze" since the adherent of the adhered layer clearly encompasses "braze." Fig. 2, c. 4, ll. 55-66. Thus, it would have been obvious to the ordinary artisan at the time of the instant to provide the Prior Art with the step of removing the honeycomb structure by directing a high pressure liquid stream striking the substrate at the base of the honeycomb at an angle less than 90° as taught by McComas et al and Carr in order to facilitate removal of the honeycomb and braze without damaging the substrate.

Regarding claim 8, the modified method of the Prior Art includes the ribbon direction since the straight line movement of the liquid would be in parallel direction to the impinged ribbon of the honeycomb.


Art Unit: 3724


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Goodman whose telephone number is (703) 308-0501. The examiner can normally be reached on Monday-Thursday between 7:30 AM to 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap, can be reached on (703) 308-1082.

In lieu of mailing, it is encouraged that all formal responses be faxed to 703-872-9302. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is 703-308-1148.

cg 
May 5, 2003


Charles Goodman
Primary Examiner
AU 3724

CHARLES GOODMAN
PRIMARY EXAMINER